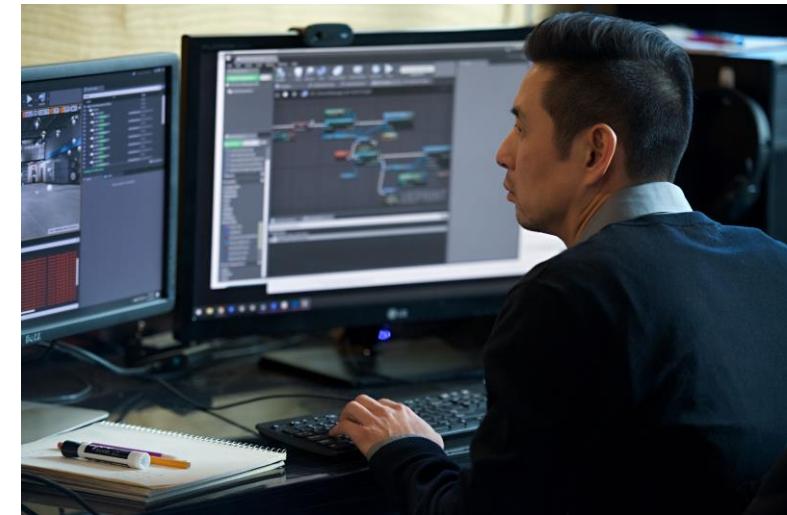




Current and Future VR Training Modules and Platform Features (Webinar Series Session #7)

June 30, 2020

Presented by Ray Deatherage



Webinar Series Overview – 8 Sessions

- Session #1: VR Users Committee Introduction (April 9)
- Session #2: Industry Training Challenges and VR Benefits and Use Cases (April 21)
- Session #3: Hardware Equipment, Software, and Network Requirements (May 5)
- Session #4: Control Center Overview* (May 19)
- Session #5: Scoring Manager* (Authoring Tool) (June 2)
- Session #6: Module Development and Maintenance Process (June 16)
- Session #7: Current and Future VR Training Modules and Platform Features (June 30)
- Session #8: Technology Integration and Support Services (July 14)

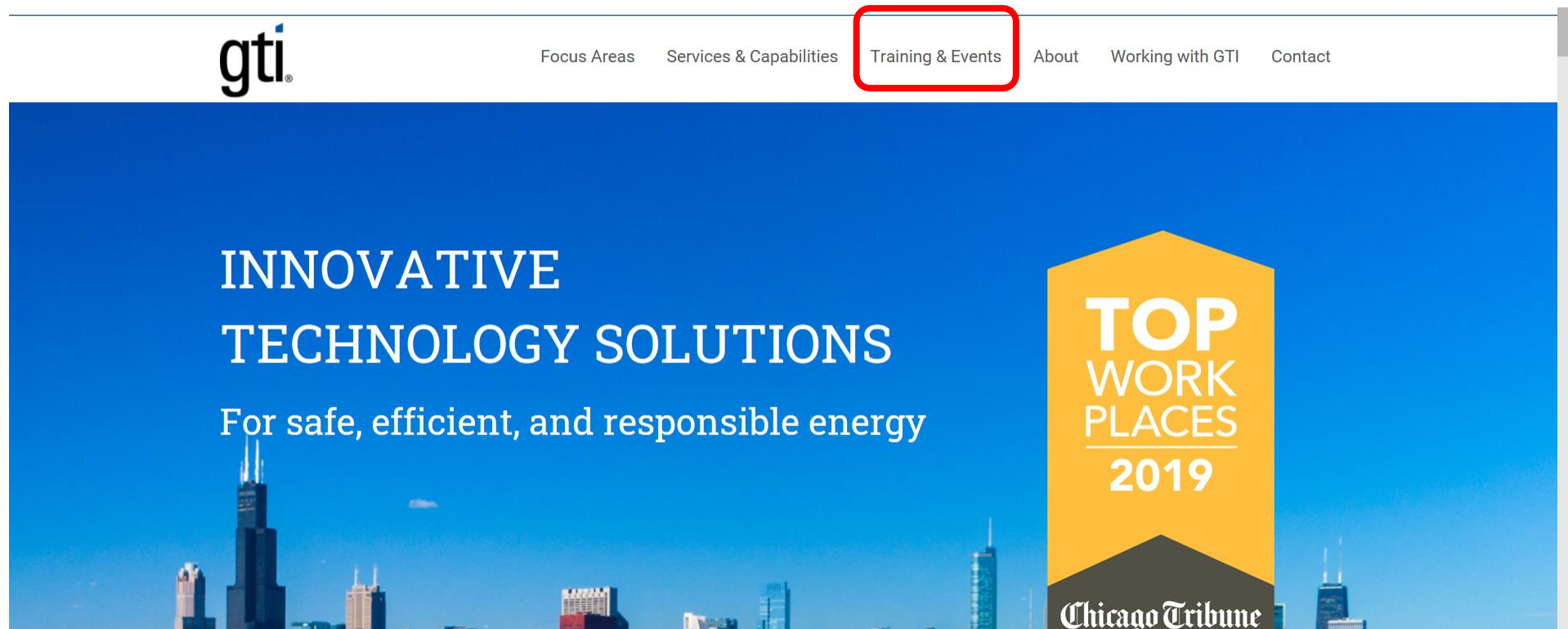
Presentation Agenda

- Recap Session #6
- VR Training Technology in the News
- Current and Future VR Training Modules and Platform Features
 - Overview
 - Demonstration
- Group Discussion
- Next Steps



GTI VR Webinar Presentations and Training Information

- GTI Website (<https://www.gti.energy/>)



Session #6 Training Module Development and Maintenance Process (Non-Technical Version)

- Client and/or VR/AR/XR Users Committee input is required for initial development and future enhancements to existing modules.
- Initial Design Document: Environment details, interactive tools, PPE requirements, learning objectives, scenarios, randomizations, hazard interactions, etc.
- The Scoring Manager Tool is Populated – This allows data driven content to be edited easily.
- Alpha and Beta Testing is conducted at different stages.
- User feedback is added to backlog for semi-annual updates.

Seven (7) Phases of Training Module Development

(Developer Version)

- **Pre-Production (2 weeks)**: Discovery call , storyboards, flow charts, gas design document, technical design document, scope sign-off.
- **Production (1 week)**: Project kick-off, grading system created, multi-user implemented.
- **Prototype Production (1 week)**: Greybox art, backend manager system, rough story points, rough functionality.
- **Alpha Production (3 weeks)**: Menu scripts, art optimizations, grading metrics, character scripts
- **Beta Production (3 weeks)**: Implement art and test, audio finalized and implemented, grading finalized, tutorial finalized, etc.
- **Final Production (2 weeks)**: User manual created, QA testing, bug fixes, module launch
- **Post Production (+1 week)**: Backlog, maintenance

Keys to Development Success

- Access to training material and procedures.
- Visuals and videos of tools, equipment, and activities being performed.
- Input by and access to multiple SME's (Content Users).
- Immediate responses to questions by designers and developers.
- Ability to test Alpha and Beta module releases (e.g., Oculus Quest)

VR Training Technology in the News

Dyess Air Force base adds virtual reality to maintenance training program

You've got the big headsets and the controllers, but this video game is all work and no play. "This is the future of training ...

 Big Country Homepage | 6d



Virtual training technologies will be used to re-train furloughed COVID-19 workers

The COVID-19 pandemic wiped out nearly 40 million jobs dating back to mid-February. It didn't matter which industry, as ...

List of Banks in Belarus | 8d



Virtual reality could save outback businesses thousands of dollars in training costs

Virtual reality is helping workers in remote Queensland learn essential skills with COVID-friendly technology that could save ...

 Australian Broadcasting Corporation | 1d



Current and Future VR Training Modules (June 30)

Current Modules Available

- Inside Meter Inspection
- Emergency Response Procedure
- Appliance Inspection*
- Facility Locating and Marking*
- Outside Leak Investigation and Classification*
- Pipeline Patrolling*
- Inside Leak Investigation*

Future Module Development

- Gas Handling
- Meter Change
- Regulator Inspection
- Industrial Regulator Inspection
- Valve Inspection
- Leak Survey
- Hazard Mapping a Jobsite
- Pre-Excavation Inspections



Common Learning Objectives Across All Modules

- Procedural Steps
 - Emergency Response
 - Facility Locating and Marking
 - Outside Leak Investigation
- Abnormal Operating Conditions (AOC's)
- Communication & Documentation
- Hazard Recognition (e.g., bees, unlevel ground, dangerous dog, etc.)
- Personal Protective Equipment (PPE) Requirements

Additional VR/AR/XR Training Platform Features in Development (Q4 2020)

- **Virtual Classroom:** Learner and training modes for tools and equipment.
- **Operator Qualification (OQ) Evaluator Tool:** Improve consistency and remote capability of evaluations.
- **VR/AR/XR Content Manager:** Manage and deliver customer created content (e.g., 360 degree video).



Emergency Response Demonstration Video



Inside Meter Inspection Demonstration Video



New Training Module Release Demonstration Video



First Responder Demonstration Video



Example of Multi-Player Usage Remotely



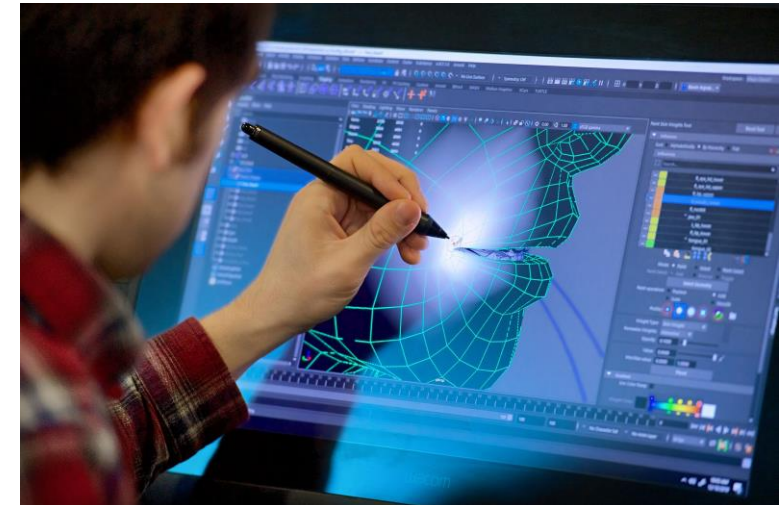


Live VR Training Demonstration - ERS



Questions?

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Next Steps

- Invite the necessary company stakeholders to participate in **Session #8 on July 14th Technology Integration and Support Services**. During this session, participants will learn more about the different VR training integration support services available for evaluating this new training technology within their organization.
- Continue to collect VR questions from your organization and submit to GTI (Ray).

Thank you for attending today's webinar.

Presenter Biography

Ray Deatherage – Senior Program Manager with GTI

- 27+ years experience in the natural gas industry
- 25+ years experience with a gas distribution company
 - Operations, Standards, Materials, Failure Analysis, Quality Assurance, Compliance, Training, and Operator Qualification
- 15+ years experience developing, delivering, and maintaining training and qualification programs
- 4+ years experience evaluating and developing VR training technologies
- VR/AR Association Member – Chicago Chapter
- VR/AR Energy Committee Member
- MEA Technical Training Committee Member